

Please amend page 28, line 1 as follows:

Claims What is claimed is:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method of coating the internal surface of a device with a polymer, the process comprising the steps of:

- (i) introducing into the device a solution of one or more monomers in a suitable solvent;
- (ii) introducing a flow of an inert gas through the device; and
- (iii) initiating polymerisation of the monomer solution.

2. (Original) A method as claimed in claim 1 wherein the device is a microfabricated device or a reaction vessel with an internal diameter of less than about 2mm

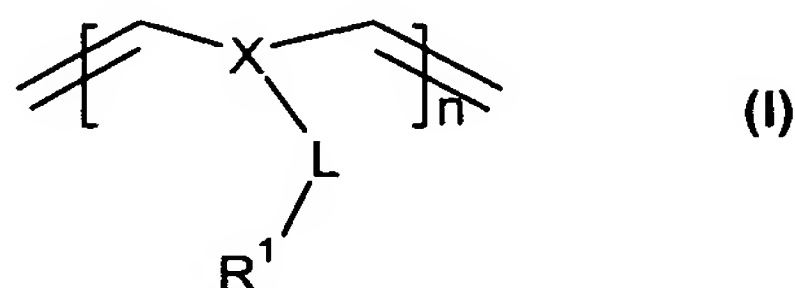
3. (Currently amended) A method as claimed in claim 1 ~~or claim 2~~, wherein the inert gas is nitrogen or argon.

4. (Currently amended) A method as claimed in ~~any one of claims 1 to 3~~claim 1, wherein the device is a microfabricated device or a loop from 1 to 100 cm in length.

5. (Currently amended) A method as claimed in ~~any one of claims 1 to 4~~claim 1, wherein the device is adapted to carry out a solid-phase radiochemical process.

6. (Currently amended) A method as claimed in ~~any one of claims 1 to 5~~claim 1, wherein the one or more monomers can be polymerised by ring opening metathesis polymerisation (ROMP) and the solution also includes a ruthenium carbene catalyst and a cross-linker.

7. (Currently amended) A method as claimed in ~~any one of claims 1 to 6~~claim 1, wherein polymerisation of the one or more monomers leads to a ROMP polymer of Formula (I):



wherein:

X is either a C₄₋₆ cycloalkyl or C₄₋₆ heterocyclyl moiety;

L is a C₁ to C₂₀ linker group comprising one or more alkyl, alkenyl, alkynyl, C₄₋₁₀ cycloalkyl, C₄₋₁₀ heterocyclyl, C₄₋₁₀ aryl, C₄₋₁₀ heteroaryl, ether, PEG, sulphide, amide, sulphamide or a combination thereof; any of which may be substituted with one or more groups R²

R¹ is hydrogen, C₁₋₂₀ alkyl, C₂₋₂₀ alkenyl, C₂₋₂₀ alkynyl, C₄₋₁₂ cycloalkyl, C₄₋₁₂ heterocyclyl, aryl, heteroaryl, C(O)R³, C₁₋₂₀ alkyl-C(O)R³, C₂₋₂₀ alkenyl-C(O)R³, C₂₋₂₀ alkynyl-C(O)R³, nitro, isocyanate, C₁₋₁₀ alkyl-C(O)-C(R⁴)₂-C(O)-C₁₋₁₀ alkyl, aminooxy, nitrile, phosphorus chloride, succinimide, sulphonyl chloride, halogen, tosylate, mesylate, triflate, nonaflate, silane, OR⁴, SR⁴, N(R⁴)₂, N⁺(R⁴)₃, quaternary phosphorous, C₁₋₂₀ alkyl-R⁵, C₂₋₂₀ alkenyl-R⁵ or C₂₋₂₀ alkynyl-R⁵ or a group comprising an enzyme or a catalyst.

R² is C(O)R³, C₁₋₂₀ alkyl-C(O)R³, C₂₋₂₀ alkenyl-C(O)R³, C₂₋₂₀ alkynyl-C(O)R³, nitro, isocyanate, C₁₋₁₀ alkyl-C(O)-C(R⁴)₂-C(O)-C₁₋₁₀ alkyl, aminooxy, nitrile, phosphorus

chloride, succinimide, sulphonyl chloride, halogen, tosylate, mesylate, triflate, nonaflate, silane, OR^4 , SR^4 , $N(R^4)_2$, $N^+(R^4)_3$, quaternary phosphorous, C_{1-20} alkyl- R^5 , C_{2-20} alkenyl- R^5 or C_{2-20} alkynyl- R^5 .

R^3 is H, OH, C_{1-20} alkyl, OC_{1-20} alkyl, $N(R^4)_2$, $N^+(R^4)_3$;

each R^4 is independently H or C_{1-10} alkyl;

R^5 is OR^4 , SR^4 , $N(R^4)_2$, $N^+(R^4)_3$, C_{4-10} cycloalkyl, C_{4-10} heterocyclyl, aryl or heteroaryl.

8. (Original) A process as claimed in claim 7, wherein, in the ROMP polymer of Formula (I):

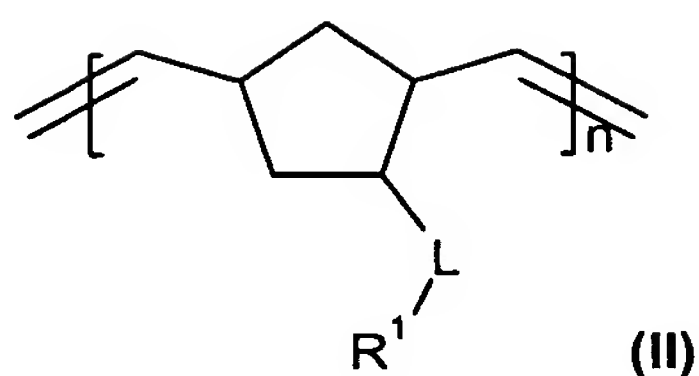
R^1 is halogen, OH, SH, C_{1-20} alkyl, C_{4-12} aryl, C_{1-20} alkyl- R^5 , C_{1-20} alkyl- $C(O)R^3$, $N(R^4)_2$, $N^+(R^4)_3$ or a group comprising an enzyme or a catalyst.

where R^3 is OH, R^4 is as defined for general formula (I) and R^5 is $N(R^4)_2$, $N^+(R^4)_3$, aryl or heteroaryl;

9. (Original) A process as claimed in claim 8, wherein, in the ROMP polymer of Formula (I) wherein R^1 is C_{1-20} alkyl; $-N=C=O$, $-SH$ or $N^+(R^4)_3$, particularly with bound ^{18}F -fluoride ion or comprises an enzyme or a catalyst; and R^4 is as defined in general formula (I).

10. (Currently amended) A process as claimed in ~~any one of claims 7 to 9~~claim 7, wherein the polymer of Formula (I) contains more than one R^1 group.

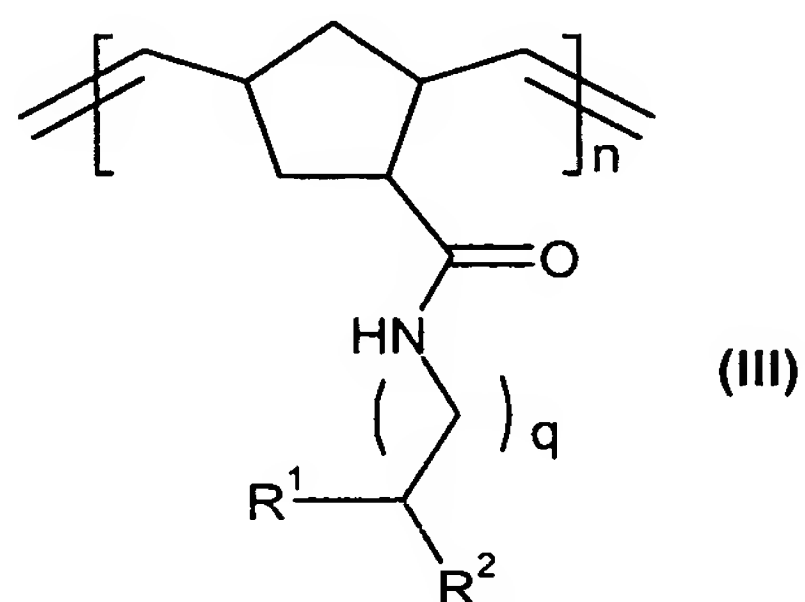
11. (Currently amended) A process as claimed in ~~any one of claims 1 to 10~~claim 1 wherein polymerisation of the one or more monomers leads to a ROMP polymer of Formula (II):



wherein:

-L -, R^1 and n are as defined above for Formula (I).

12. (Currently amended) A process as claimed in ~~any one of claims 1 to 11~~ claim 1 wherein polymerisation of the one or more monomers leads to a ROMP polymer of Formula (III):



wherein:

R^1 and n are as defined above for Formula (I);

R^2 is an optional group as defined above for -L- of Formula (I); and,

$q = 1-4$.

13. (Original) A process as claimed in claim 12, wherein, in the ROMP polymer of Formula (III), R^1 is trialkylammonium, R^2 is absent, $q = 3$ and n = number of polymer units.

14. (Currently amended) A process as claimed in ~~any one of claims 1 to 13~~ claim 1, wherein each monomer is present in the starting solution in a concentration of from about 0.1 to 5M.

15. (Currently amended) A process as claimed in ~~any one of claims 1 to 14~~ claim 1 wherein, in the monomer solution, the solvent is a polar aprotic solvent.

16. (Currently amended) A process as claimed in ~~any one of claims 1 to 15~~ claim 1 wherein polymerisation is initiated by heating.

17. (Currently amended) A process as claimed in ~~any one of claims 1 to 15~~ claim 1 wherein polymerisation occurs spontaneously.

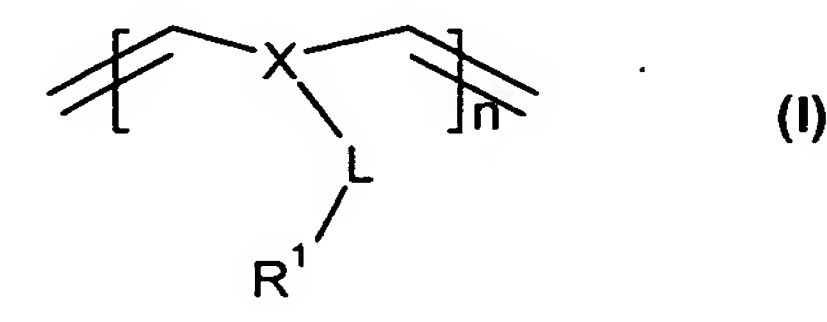
18. (Currently amended) A process as claimed in ~~any one of claims 1 to 17~~ claim 1, wherein the device is a microfabricated device and, the process of the invention comprises the initial step of creating a defined network of channels within the device.

19. (Original) A device comprising a microfabricated device or a reaction vessel with an internal diameter of less than about 2mm, wherein the internal surface is coated with a polymer substrate for a solid phase physical or chemical process.

20. (Original) A device as claimed in claim 19 adapted for carrying out a solid phase radiochemical process.

21. (Currently amended) A device as claimed in claim 19 ~~or claim 20~~, wherein the internal surface is coated with a ROMP polymer.

22. (Currently amended) A device as claimed in ~~any one of claims 19 to 21~~ claim 19, wherein the internal surface is coated with a polymer as defined in ~~any one of claims 7 to 13~~ of Formula (I):



wherein:

X is either a C₄₋₆ cycloalkyl or C₄₋₆ heterocyclyl moiety;

L is a C₁ to C₂₀ linker group comprising one or more alkyl, alkenyl, alkynyl, C₄₋₁₀ cycloalkyl, C₄₋₁₀ heterocyclyl, C₄₋₁₀ aryl, C₄₋₁₀ heteroaryl, ether, PEG, sulphide, amide, sulphamide or a combination thereof; any of which may be substituted with one or more groups R²

R¹ is hydrogen, C₁₋₂₀ alkyl, C₂₋₂₀ alkenyl, C₂₋₂₀ alkynyl, C₄₋₁₂ cycloalkyl, C₄₋₁₂ heterocyclyl, aryl, heteroaryl, C(O)R³, C₁₋₂₀ alkyl-C(O)R³, C₂₋₂₀ alkenyl-C(O)R³, C₂₋₂₀ alkynyl-C(O)R³, nitro, isocyanate, C₁₋₁₀ alkyl-C(O)-C(R⁴)₂-C(O)-C₁₋₁₀ alkyl, aminooxy, nitrile, phosphorus chloride, succinimide, sulphonyl chloride, halogen, tosylate, mesylate, triflate, nonaflate, silane, OR⁴, SR⁴, N(R⁴)₂, N⁺(R⁴)₃, quaternary phosphorous, C₁₋₂₀ alkyl-R⁵, C₂₋₂₀ alkenyl-R⁵ or C₂₋₂₀ alkynyl-R⁵ or a group comprising an enzyme or a catalyst.

R² is C(O)R³, C₁₋₂₀ alkyl-C(O)R³, C₂₋₂₀ alkenyl-C(O)R³, C₂₋₂₀ alkynyl-C(O)R³, nitro, isocyanate, C₁₋₁₀ alkyl-C(O)-C(R⁴)₂-C(O)-C₁₋₁₀ alkyl, aminooxy, nitrile, phosphorus chloride, succinimide, sulphonyl chloride, halogen, tosylate, mesylate, triflate, nonaflate, silane, OR⁴, SR⁴, N(R⁴)₂, N⁺(R⁴)₃, quaternary phosphorous, C₁₋₂₀ alkyl-R⁵, C₂₋₂₀ alkenyl-R⁵ or C₂₋₂₀ alkynyl-R⁵.

R³ is H, OH, C₁₋₂₀ alkyl, OC₁₋₂₀ alkyl, N(R⁴)₂, N⁺(R⁴)₃;

each R⁴ is independently H or C₁₋₁₀ alkyl;

R⁵ is OR⁴, SR⁴, N(R⁴)₂, N⁺(R⁴)₃, C₄₋₁₀ cycloalkyl, C₄₋₁₀ heterocyclyl, aryl or heteroaryl.

23. (Currently amended) An automated synthesis system comprising two or more devices as claimed in ~~any one of claims 19 to 22~~ claim 19 which are fluidly interconnected

24. (Currently amended) A method for recovering of ¹⁸F-fluoride ion from ¹⁸O-enriched water containing ¹⁸F-fluoride ion, the process comprising passing the ¹⁸O-

enriched water containing ^{18}F -fluoride ion through a device as claimed in ~~any one of claims 19 to 22~~ claim 19 or a system ~~as defined in claim 23~~ comprising two or more devices as claimed in claim 19 which are fluidly interconnected, in which the polymer coating comprises a ROMP polymer of general formula (III) in which R^1 is tri(C_{1-6} alkyl)ammonium, with a non-nucleophilic counter-ion, R^2 is absent and q is 3.

25. (Original) A method as claimed in claim 24 which is a step in the synthesis of an ^{18}F -labelled radiotracer.

26. (Currently amended) A method for the synthesis of an ^{18}F -labelled radiotracer, the method comprising:

- (i) recovering of ^{18}F -fluoride ion from ^{18}O -enriched water containing ^{18}F -fluoride ion passing the ^{18}O -enriched water containing ^{18}F -fluoride ion through a device as claimed in ~~any one of claims 19 to 22~~ claim 19 or a device ~~as claimed in claim 23~~ comprising two or more devices as claimed in claim 19 which are fluidly interconnected, in which the polymer coating comprises a ROMP polymer of general formula (III) in which R^1 is tri(C_{1-6} alkyl)ammonium, with a non-nucleophilic counter-ion, R^2 is absent and q is 3; and
- (ii) introducing into the device an unlabelled precursor compound of the ^{18}F -labelled radiotracer such that ^{18}F becomes incorporated into the precursor compound *via* nucleophilic substitution to form the ^{18}F -labelled radiotracer.

27. (Original) A method as claimed in claim 26, wherein the ^{18}F -labelled radiotracer is:

2- ^{18}F fluorodeoxyglucose (2- ^{18}F -FDG);

L-6- ^{18}F fluoro-DOPA;

3'-deoxy-3'-fluorothymidine (FLT);

2-(1,1-dicyanopropen-2-yl)-6-(2- ^{18}F fluoroethyl)-methylamino)-naphthalene (^{18}F FDDNP);

5 ^{18}F fluorouracil; 5 ^{18}F fluorocytosine; or

$[^{18}\text{F}]$ -1-amino-3-fluorocyclobutane-1-carboxylic acid ($[^{18}\text{F}]$ -FACBC).